CY-209 ANALYTICAL CHEMISTRY II

Fundamentals of Electrochemistry: Electrical measurements, Galvanic cells, standard potentials, Nernst Equation, Relationship between E° and equilibrium constant, Nernst Equation for half reactions, classification of electrochemical methods.

Potentiometric Methods of Analysis: potentiometric measurements, Reference Electrodes (NHE, SCE, Ag/AgCI), metallic Indicator Electrodes, membrane electrodes, Quantitative and Qualitative applications.

Coulometric Methods of Analysis: controlled-potential coulometry, controlled-current coulometry, Quantitative and Qualitative applications.

Voltammetric Methods of Analysis: Voltamettetric measaurements, current in voltammetry, shapes of voltammograms, voltammetric techniques: polarography, Amperometry, Quantitative and Qualitative applications.

Chromatographic Methods of Analysis: Principles of chromatography, classification, techniques of chromatography, General Theory of column chromatography (chromatographic resolution, capacity factor, column selectivity, column efficiency, peak capacity, non-ideal behavior)

Gas Chromatography: Mobile phase, chromatographic columns, stationary phases, temperature control, sample introduction, detectors for gas chromatography, Qauntitative and Qualitative applications.

High-Performance Liquid Chromatography:

HPLC columns, stationary phases, mobile phases, HPLC plumbing, sample introduction, Detectors for HPLC, Qualitative and quantitative applications.